

CLAIMS

What is claimed is:

- Sub a1
- 1 A mounting hat for a brake rotor comprising:
 - 2 a lower section coupled to an upper section,
 - 3 a plurality of aerodynamically shaped standoff vanes each having a leading edge,
 - 4 a trailing edge, a top and a bottom coupled to the upper section; and
 - 5 a plurality of vents formed between adjacent aerodynamically shaped standoff
 - 6 vanes, wherein the vents are circumferentially distributed on the upper section, and air
 - 7 flow is induced to flow through the plurality of vents.
- 1 2. The mounting hat of claim 1, wherein the leading edge and the trailing edge of the
 - 2 plurality of aerodynamically shaped standoff vanes are curved.
- 1 3. The mounting hat of claim 1, wherein the leading edge and the trailing edge of the
 - 2 plurality of aerodynamically shaped standoff vanes are one of stepped up and ramped up
 - 3 from the upper section towards the top of the plurality of aerodynamically shaped
 - 4 standoff vanes.
- 1 4. The mounting hat of claim 1, wherein the leading edge and the trailing edge of the
 - 2 plurality of aerodynamically shaped standoff vanes are symmetrical.
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- 1 5. The mounting hat of claim 1, wherein the leading edge and the trailing edge of the
 - 2 plurality of aerodynamically shaped standoff vanes are asymmetrical.
- 1 6. The mounting hat of claim 1, wherein the top of the plurality of aerodynamically
 - 2 shaped standoff vanes is bored to accept one of a drive pin, a bolt, and a lug.
- 1 7. The mounting hat of claim 1, wherein the upper section includes distributed
 - 2 openings.
- 1 8. The mounting hat of claim 7, wherein the plurality of aerodynamically shaped
 - 2 standoff vanes include an extension for coupling to the distributed openings.
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1 9. A mounting hat for a brake rotor comprising:
2 a lower section coupled to an upper section,
3 a plurality of first aerodynamically shaped standoff vanes each having a leading
4 edge, a trailing edge, a top and a bottom coupled to the upper section;
5 a plurality of second aerodynamically shaped standoff vanes each having a leading
6 edge, a trailing edge and a top coupled to the upper section; and
7 a plurality of vents formed between adjacent first aerodynamically shaped
8 standoff vanes and second aerodynamically shaped standoff vanes,
9 wherein the vents are circumferentially distributed on the upper section, and air
10 flow is induced to flow through the plurality of vents.

1 10. The mounting hat of claim 9, wherein the leading edge and the trailing edge of the
2 plurality of first aerodynamically shaped standoff vanes are curved.

1 11. The mounting hat of claim 9, wherein the leading edge and the trailing edge of the
2 plurality of second aerodynamically shaped standoff vanes are curved.

1 12. The mounting hat of claim 9, wherein the leading edge and the trailing edge of the
2 plurality of first aerodynamically shaped standoff vanes are one of stepped up and
3 ramped up from the upper section towards the top of the plurality of first
4 aerodynamically shaped standoff vanes.

1 13. The mounting hat of claim 9, wherein the leading edge and the trailing edge of the
2 plurality of second aerodynamically shaped standoff vanes are one of stepped up and
3 ramped up from the upper section towards the top of the plurality of second
4 aerodynamically shaped standoff vanes.

1 14. The mounting hat of claim 9, wherein the leading edge and the trailing edge of the
2 plurality of first aerodynamically shaped standoff vanes are symmetrical.

1 15. The mounting hat of claim 9, wherein the leading edge and the trailing edge of the
2 plurality of second aerodynamically shaped standoff vanes are symmetrical.

- 1 16. The mounting hat of claim 9, wherein the leading edge and the trailing edge of the
2 plurality of first aerodynamically shaped standoff vanes are asymmetrical.
- 1 17. The mounting hat of claim 9, wherein the leading edge and the trailing edge of the
2 plurality of second aerodynamically shaped standoff vanes are asymmetrical.
- 1 18. The mounting hat of claim 9, wherein the top of the plurality of first
2 aerodynamically shaped standoff vanes is bored to accept one of a drive pin, a bolt, and a
3 lug.
- 1 19. The mounting hat of claim 9, wherein the upper section includes distributed
2 openings.
- 1 20. The mounting hat of claim 19, wherein the plurality of aerodynamically shaped
2 standoff vanes include an extension for coupling to the distributed openings.
- 1 ~~21. A brake rotor comprising:~~
2 ~~a rotor,~~
3 ~~a hub having a plurality of aerodynamically shaped standoff vanes each having a~~
4 ~~leading edge, a trailing edge, a top, a bottom and a plurality of vents formed between~~
5 ~~adjacent aerodynamically shaped standoff vanes coupled to the rotor, wherein the vents~~
6 ~~are circumferentially distributed between the hub and the rotor, and air flow is induced to~~
7 ~~flow through the plurality of vents.~~
- 1 22. The brake rotor of claim 21, wherein the leading edge and the trailing edge of the
2 plurality of aerodynamically shaped standoff vanes are curved.
- 1 23. The brake rotor of claim 21, wherein the leading edge and the trailing edge of the
2 plurality of aerodynamically shaped standoff vanes are one of stepped up and ramped up
3 towards the top of the plurality of aerodynamically shaped standoff vanes.
- 1 24. The brake rotor of claim 21, wherein the leading edge and the trailing edge of the
2 plurality of aerodynamically shaped standoff vanes are symmetrical.

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1 25. The brake rotor of claim 21, wherein the leading edge and the trailing edge of the
2 plurality of aerodynamically shaped ~~standoff~~ vanes are asymmetrical.

1 26. The brake rotor of claim 21, wherein the top of the plurality of aerodynamically
2 shaped standoff vanes is bored to accept one of a drive pin, a bolt, and a lug.

1 27. The mounting hat of claim 21, wherein the upper section includes distributed
2 openings.

1 28. The mounting hat of claim 27, wherein the plurality of aerodynamically shaped
2 standoff vanes include an extension for coupling to the distributed openings.

1 29. A brake rotor comprising:
2 a rotor;
3 a hub having a plurality of first aerodynamically shaped standoff vanes each
4 having a leading edge, a trailing edge, a top and a bottom coupled to the hub;
5 a plurality of second aerodynamically shaped standoff vanes each having a leading
6 edge, a trailing edge and a top coupled to the hub; and
7 a plurality of vents formed between adjacent first aerodynamically shaped
8 standoff vanes and second aerodynamically shaped standoff vanes,
9 wherein the vents are circumferentially distributed between the hub and the rotor,
10 and air flow is induced to flow through the plurality of vents.

1 30. The brake rotor of claim 29, wherein the leading edge and the trailing edge of the
2 plurality of first aerodynamically shaped standoff vanes are curved.

1 31. The brake rotor of claim 29, wherein the leading edge and the trailing edge of the
2 plurality of second aerodynamically shaped standoff vanes are curved.

1 32. The brake rotor of claim 29, wherein the leading edge and the trailing edge of the
2 plurality of first aerodynamically shaped standoff vanes are one of stepped up and
3 ramped up towards the top of the plurality of first aerodynamically shaped standoff

4 vanes.

1 33. The brake rotor of claim 29, wherein the leading edge and the trailing edge of the
2 plurality of second aerodynamically shaped standoff vanes are one of stepped up and
3 ramped up towards the top of the plurality of second aerodynamically shaped standoff
4 vanes.

1 34. The brake rotor of claim 29, wherein the leading edge and the trailing edge of the
2 plurality of first aerodynamically shaped standoff vanes are symmetrical.

1 35. The brake rotor of claim 29, wherein the leading edge and the trailing edge of the
2 plurality of second aerodynamically shaped standoff vanes are symmetrical.

1 36. The brake rotor of claim 29, wherein the leading edge and the trailing edge of the
2 plurality of first aerodynamically shaped standoff vanes are asymmetrical.

1 37. The brake rotor of claim 29, wherein the leading edge and the trailing edge of the
2 plurality of second aerodynamically shaped standoff vanes are asymmetrical.

1 38. The brake rotor of claim 29, wherein the top of the plurality of first
2 aerodynamically shaped standoff vanes is bored to accept one of a drive pin, a bolt, and a
3 lug.

1 39. The mounting hat of claim 29, wherein the upper section includes distributed
2 openings.

1 40. The mounting hat of claim 39, wherein the plurality of aerodynamically shaped
2 standoff vanes include an extension for coupling to the distributed openings.